REMARKS

Claims 1 and 3 are in the case, with the remaining claims, Claims 2 and 4- 23 being canceled to simplify the prosecution of this case, but without prejudice to Applicant's filing a continuation case for Claims 2, 4 - 13, and 17 - 23 and a divisional application for the non-elected Claims 14 - 16.

The support for the added language to Claims 1 and 3 is at least in original Claims 1 and 8, and in paragraphs 13 and 14 of the published application. It is submitted that no new matter has been added.

In the outstanding Office Action, the Specification has been objected to for a misspelled word, and the claims have been objected to for various informalities and rejected under 35 USC §112, first paragraph, for "new matter;" under 35 USC §102 as being anticipated, and/or under 35 USC §103(a) as being obvious. These objections and rejections have been obviated by amending the specification and either cancelling the affected claims or rewriting the two remaining claims.

The present invention pertains to determining fetal well-being by virtue of the detection and processing of an expectant mother's abdominal displacements. In greater particularity, the present invention pertains to amplifying an expectant mother's

abdominal displacements for assisting such detection and processing.

The Examiner cited US Patent 6,135,969 to Hale directed toward a vibration sensor 10 primarily for detecting minute vibrations having acceleration greater than a predetermined amount, and particularly periodic vibrations of an expectant mother's abdomen induced by pounding of her fetus' heart in the later stages of pregnancy. The Hale specification does not describe or illustrate the manner in which the vibration sensor is intimately juxtaposed to an expectant mother's abdomen without which the Hale vibration sensor is inoperable. It is common practice to intimately juxtapose vibration sensors against an expectant mother's abdomen by way of a belt, for example, as illustrated and described in US Patent No. 5,817,035 to Sullivan.

The vibration sensor 10 has a two part casing 26 formed of identical halves 26' and a sensor component 25 of an assembly of piezoelectric units/discs 12 and beveled spring washers (Belleville springs) 20 for weighting the piezoelectric units/discs 12 at their peripheries. Each piezoelectric unit/disc 12 includes a thin circular somewhat flexible substrate 14 and a piezoelectric ceramic patch 16. The sensor component 24 can include a strip 24 of pressure-sensitive adhesive wound around the washers 20. Hale's frequency range of interest is 20

Hz to 200 Hz for use as a fetal heart sound sensor and a resonant sensor frequency of 50 Hz to 80 Hz has been found to provide reliable signals of fetal heart tones (see Col. 5 lines 9 to 19)

In contradistinction to the Hale vibration sensor, the bio-filter pad of the present invention is not a device in its own right but rather is a single patient single use compliance matching interposer for interposing between an expectant mother's abdomen and a discrete transducer for issuing electrical signals corresponding to fetal motor activity for detection and processing purposes. The better the compliance the greater the transfer of energy from an expectant mother's abdomen to the transducer and accordingly the use of the bio-filter pad is analogous to the use of gel on an expectant mother's abdomen for improving the contact between an acoustic sensor and the expectant mother's abdomen to minimize energy losses, say, during ultrasound fetal imaging. The bio-filter pad of the present invention is intended to be used once only before disposable and is particularly intended for fetal well-being monitoring by expectant mothers in the comfort of their own home.

The bio-filter pad comprises a viscoelastic interior with a topside and an underside. The viscoelastic interior is designed to have a mechanical resonance frequency which is midway of the 8-25 Hz natural frequency signature associated with fetal motor

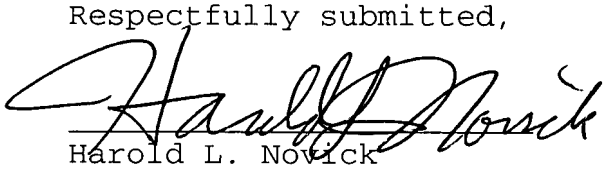
activity for affording good compliance between an expectant mother's abdomen and the transducer. The bio-filter pad is additionally provided with a peel-off protective layer for exposing an adhesive surface for intimately adhering the bio-filter pad to an expectant mother's abdomen. In other words, the bio-filter pad replaces the use of the conventional belt for use maintaining a transducer in intimate proximity to an expectant mother's abdomen The bio-filter pad is additionally provided with a restraining member for intimately juxtaposing the transducer against the viscoelastic interior. The transducer is intended to be slided under the restraining member. The restraining member preferably intimately juxtaposes the transducer at a central location on the bio-filter pad to maximize its amplification effect.

By virtue of the bio-filter pad of the present invention, a suitable tuned transducer and a fetal activity recorder together constituting fetal activity monitoring apparatus need a combined about 45 dB electrical signal amplification as opposed to the hitherto required 80 dB electrical signal amplification in the Adler article acknowledged in the specification, thereby also inherently beneficially reducing the latter's EMI sensitivity.

For the foregoing reasons, it is submitted that the application is in condition for allowance and such action is respectfully requested.

If an Extension of Time under 37 CFR §1.136 is required and has not been separately requested, please consider this Transmittal Letter as including a request for such Extension of Time and as a further authorization to charge any fee for such Extension of Time, as may be required by 37 CFR §1.17, to Deposit Account No. 14-0112. Also, please charge any fee deficiency, or credit any overpayment, in connection with this matter to Deposit Account No. 14-0112.

Respectfully submitted,



Harold L. Novick
Registration No. 26,011
Customer No. 20529

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THE NATH LAW GROUP
112 S. West Street
Alexandria, VA
(703) 548-6284
HLN/xv